

AMENDMENTS TO THE CLAIMS

1. (Original) An oral phototherapy ~~applicator~~ apparatus comprising
a body sized and shaped so as to fit at least partially in a user's mouth; and
at least one radiation emitter coupled to the body to irradiate a portion of the oral cavity
with phototherapeutic radiation; the emitter being capable of delivering radiation to a region of
facial tissue.
2. (Original) The apparatus of claim 1 wherein the emitter further comprises a source of
radiation having wavelength components in at least two separate spectral bands.
3. (Original) The apparatus of claim 1 wherein the emitter further comprises at least two
sources of radiation emitting different spectral bands of radiation.
4. (Presently Amended) The apparatus of claim 1 wherein the ~~emitting~~ emitter further
comprises a radiation source selected from the group of light-emitting diodes, superluminescent
diodes, laser diodes, vertical cavity surface emitting lasers, fiber lasers, fluorescent solid-state
sources, and lamps.
5. (Original) The apparatus of claim 1 wherein the apparatus further comprises an optical filter
for selecting a spectral band of radiation for use in phototherapy.
6. (Original) The apparatus of claim 1 wherein the apparatus further comprises a plurality of
optical filters for selecting a plurality of spectral bands of radiation for use in phototherapy.
7. (Original) The apparatus of claim 1 wherein the apparatus further comprises an optical
element for directing radiation in different directions.

8. (Original) The apparatus of claim 7 wherein the apparatus is configured to direct radiation to at least one portion of the oral cavity selected from the group of a tooth, cheek, tongue, palate, throat and facial tissue, lymphatic tissue, blood, gland, follicle, collagen and pigmentation.

9. (Presently Amended) The apparatus of claim 1 wherein the apparatus is configured such that, upon disposition of the applicator within the mouth, radiation from the emitter can penetrate the ~~mucosal~~ mucosal lining of the oral cavity and deliver phototherapeutic energy to a region of facial tissue.

10. (Original) The apparatus of claim 1 wherein the apparatus further comprises a plurality of bristles.

11. (Original) The apparatus of claim 10 wherein the bristles are substantially transparent to phototherapeutic radiation within at least one wavelength range.

12. (Original) The apparatus of claim 10 wherein the bristles are optically transmissive and are coupled to the emitter to receive and propagate radiation therefrom.

13. (Original) The apparatus of claim 10 wherein the apparatus further comprise a scattering agent to diffuse the radiation.

14. (Original) The apparatus of claim 10 wherein the bristles are at least partially coated with a reflective material.

15. (Presently Amended) The apparatus of claim 10 wherein the bristles have at least one shape, relative to an elongated direction of the bristles, selected from the group of conical, tapered, curved and spiral shapes.

16. (Original) The apparatus of claim 10 wherein the bristles are shaped to transmit radiation upon contact between the bristles and a portion of the oral cavity.

17. (Original) The apparatus of claim 10 wherein bristles further comprise at least one element selected from the group of fluorescent, luminescent or lasing elements.

18. (Original) The apparatus of claim 10 wherein the bristles are incorporated into a brush head which is removable and replaceable.

19. (Presently Amended) The apparatus of claim 10 ~~18~~ wherein the bristles are optically transmissive and coupled to ~~a radiation emitter~~ at least one of the at least one radiation emitting elements to receive and transmit radiation.

20. (Original) The apparatus of claim 19 wherein the light refractive characteristics of the optically transmissive bristles are selected to inhibit light transmission to the oral cavity in the absence of contact between the bristle and a surface of the teeth or cavity.

21. (Original) The apparatus of claim 1 wherein the apparatus further comprises a motion sensor and controller which controls the radiation emitter based on signals from the motion sensor.

22. (Original) The apparatus of claim 1 wherein the apparatus further comprises a contact sensor and controller which controls the radiation emitter based on signals from the contact sensor.

23. (Original) The apparatus of claim 1 wherein the apparatus further comprises an diagnostic sensor and controller which controls the radiation emitter based on signals from the diagnostic sensor.

24. (Original) The apparatus of claim 1 wherein the apparatus further comprises at least one thermally conductive element for extracting heat from the emitter.

25. (Original) The apparatus of claim 24 wherein the thermally conductive element comprises a fluid heat transfer medium.

26. (Original) The apparatus of claim 24 wherein the apparatus further comprises a handle that serves as a heat sink.

27. (Original) The apparatus of claim 24 wherein the thermally conductive element comprises a phase change material.

28. (Original) The apparatus of claim 24 wherein the apparatus further comprises a heat transfer element for heating a portion of the oral cavity with waste heat from the apparatus.

29. (Presently Amended) The apparatus of claim 1 wherein the apparatus further comprises a light diffuser optically coupled to the ~~radiation-emitting element~~ at least one radiation emitter to deliver diffuse radiation to the oral cavity.

30. (Presently Amended) The apparatus of claim 29 wherein said light diffuser comprises an optically transmissive element with a partially etched cladding.

31. (Original) The apparatus of claim 1 wherein the body is sized and shaped so as to fit at least partially in a user's mouth and adapted to conform to the shape of at least a portion of the oral cavity.

32. (Original) The apparatus of claim 31 wherein the body is compliant to facilitate conformation to a portion of the oral cavity.

33. (Original) The apparatus of claim 31 wherein apparatus further comprises a body in the form of a mouthpiece adapted for positioning between at least a user's teeth and gums during phototherapy.

34. (Original) The apparatus of claim 31 wherein the apparatus further comprises a body adapted for placement in a position covering at least a portion of a user's tongue during phototherapy.
35. (Original) The apparatus of claim 1 wherein the apparatus further comprises a body adapted for placement in a fixed position relative to the oral cavity during phototherapy.
36. (Original) The apparatus of claim 1 wherein the apparatus further comprises an ultrasound generator for delivering acoustic energy to a target tissue site.
37. (Original) The apparatus of claim 1 wherein the apparatus further comprises a vibrating element for applying intermittent pressure to a target tissue site.
38. (Original) The apparatus of claim 1 wherein the apparatus further comprises a drug delivery port.
39. (Original) The apparatus of claim 1 wherein the apparatus further comprises an energy reflector for redirecting phototherapeutic radiation towards a target tissue site.